

AMENDMENT AND RESPONSE UNDER 37 CFR §1.116

Page 2 of 9

Serial No.: 10/000,057

Confirmation No.: 9505

Filed: November 1, 2001

For: ABRASION RESISTANT COATING FOR STACKS OF FIBER CEMENT SIDING

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-16. (canceled)

17. (currently amended) A method of making a fiberboard cement siding product, comprising:

providing a fiberboard cement substrate ~~layer~~;

coating a first major surface of the fiberboard cement substrate with a sealer;

coating the exposed surface of the sealer with a primer;

coating the exposed surface of the primer with a decorative coating;

coating the exposed surface of the decorative coating with a topcoat layer comprising a polyurethane dispersion; and

curing the topcoat layer to provide a mar and abrasion resistant coated fiberboard cement siding product; wherein the curing step comprises a thermal curing process that does not expose the siding to a board surface temperature in excess of 100 °C[.];

wherein the fiberboard cement substrate has a density of at least 1 g/cm³ and comprises wood pulp, silica and cement, and the outer topcoat layer has a dry thickness of at least 8 microns.

18. The method of claim 17, wherein the curing step comprises a thermal curing process that provides a board surface temperature of less than 100 °C.

19. (canceled)

20. (canceled)

AMENDMENT AND RESPONSE UNDER 37 CFR §1.116

Page 3 of 9

Serial No.: 10/000,057

Confirmation No.: 9505

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21. The method of claim 19 wherein the outer topcoat layer has a dry thickness of at least 10 microns.

22-30. (canceled)

31. The method of claim 18, wherein the thermal curing process provides a board surface temperature of less than 80 °C.

32. The method of claim 31, wherein the thermal curing process provides a board surface temperature of less than 70 °C.

33. The method of claim 17, wherein the topcoat layer further comprises an abrasion resistance promoting adjuvant.

34. The method of claim 17, wherein the topcoat layer has a dry thickness of at least 5 microns.

35. The method of claim 34, wherein the topcoat layer has a dry thickness between 5 and 100 microns.

36. The method of claim 34, wherein the topcoat layer has a dry thickness of at least 7 microns.

37. The method of claim 36, wherein the topcoat layer has a dry thickness between 7 and 50 microns.

AMENDMENT AND RESPONSE UNDER 37 CFR §1.116

Page 4 of 9

Serial No.: 10/000,057

Confirmation No.: 9505

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For: ABRASION RESISTANT COATING FOR STACKS OF FIBER CEMENT SIDING

38. The method of claim 36, wherein the topcoat layer has a dry thickness of at least 8 microns.
39. The method of claim 38, wherein the topcoat layer has a dry thickness between 8 and 30 microns.
40. The method of claim 38, wherein the topcoat layer has a dry thickness of at least 10 microns.
41. The method of claim 39, wherein the topcoat layer has a dry thickness between 10 and 25 microns.
42. The method of claim 17, wherein the polyurethane dispersion is an aliphatic isocyanate-based polyurethane dispersion.
43. The method of claim 17, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 1800.
44. The method of claim 43, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 5000.
45. The method of claim 44, wherein the polyurethane dispersion comprises a polyurethane having a number average molecular weight of at least 9000.
46. The method of claim 17, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 6.5 and 80 mg KOH per gram solid polymer.

AMENDMENT AND RESPONSE UNDER 37 CFR §1.116

Page 5 of 9

Serial No.: 10/000,057

Confirmation No.: 9505

Filed: November 1, 2001

For: ABRASION RESISTANT COATING FOR STACKS OF FIBER CEMENT SIDING

47. The method of claim 46, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 9 and 50 mg KOH per gram solid polymer.

48. The method of claim 47, wherein the polyurethane dispersion comprises a polyurethane having an acid number between 10 and 30 mg KOH per gram solid polymer.

49. The method of claim 17, wherein the topcoat layer has a pigment volume concentration of less than 20 percent.

50. The method of claim 49, wherein the topcoat layer has a pigment volume concentration of less than 15 percent.

51. The method of claim 17, further comprising stacking a first coated fiberboard cement siding product against a second coated fiberboard cement siding product.

52. (currently amended) A method of making a stack of fiberboard cement siding products, comprising:

preparing two or more coated fiberboard cement siding products, the method comprising:

providing a fiberboard cement substrate ~~layer~~;

optionally coating a first major surface of the fiberboard cement substrate with one or more layers comprising a sealer, a primer, or both;

coating one or more layers of a decorative coating to the outermost surface of the optionally coated fiberboard cement substrate layer;

coating the exposed surface of the one or more layers of a decorative coating with a topcoat layer comprising a polyurethane dispersion;

AMENDMENT AND RESPONSE UNDER 37 CFR §1.116

Page 6 of 9

Serial No.: 10/000,057

Confirmation No.: 9505

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For: ABRASION RESISTANT COATING FOR STACKS OF FIBER CEMENT SIDING

curing the topcoat layer to provide a mar and abrasion resistant coated fiberboard cement siding product; wherein the curing step comprises a thermal curing process that does not expose the siding to a board surface temperature in excess of 100 °C; and

stacking the two or more coated fiberboard cement siding products to form a stack[.];

wherein the fiberboard cement substrate has a density of at least 1 g/cm³ and comprises wood pulp, silica and cement, and the outer topcoat layer has a dry thickness of at least 8 microns.